

### 3.0 DEWATERING MANAGEMENT DETAILS

Details of the management options for water resulting from dewatering operations are described in this section.

#### 3.1 MANAGE WATER CONTAINING POLLUTANTS OTHER THAN SEDIMENT

##### **Definition**

Water that contains, or is suspected of containing, pollutants other than sediment is typically subject to additional testing and evaluation prior to the selection of an appropriate dewatering management option. Pollutants defined in Section 502(6) of the Federal Clean Water Act are incorporated into the California Water Code (13373).

##### **Implementation**

The Resident Engineer contacts the CSWC for assistance with additional testing and evaluation. In determining additional testing requirements, the preferred management option should be considered. Each agency or entity (sanitary sewer, TSD contractor, RWQCB, etc.) will have specific tests required prior to accepting water for discharge. Based on test results, the following management options may be considered for potentially polluted water:

- Water may meet requirements for discharge to a sanitary sewer. Refer to Section 3.4 for this management option.
- Water may be transported from the construction site by a TSD contractor. Refer to Section 3.5 for more information about this management option.
- Water may be treated and discharged in accordance with a separate NPDES permit issued by the RWQCB. Refer to Section 3.7 for more information about this management option.



- If water quality testing shows that water meets RWQCB basin plan requirement, the RWQCB may allow it to be discharged under a regional NPDES permit or the NPDES Statewide Permit for Caltrans. Discuss this option with the CSWC and the local RWQCB.

##### **Advantages**

- Ensures that dewatering operations containing pollutants other than sediment are managed in compliance with NPDES requirements.

##### **Limitations**

- Time required to test water and obtain permit.
- Cost of pre-discharge and on-going testing, if required.
- Cost of treating water to remove pollutants, if required.

### 3.2 RETAIN WATER ON SITE

#### Definition

Accumulated water is retained on site rather than transported or discharged off site. Retained water evaporates, infiltrates into the soil, or is used on the site for dust control, irrigation, or other construction-related purposes. Review the questions in Table 5 below to assess if this option is appropriate.

#### Implementation

This option entails (1) dispersing the water over a vegetated area and allowing the water to infiltrate into the soil or evaporate, or (2) storing the water in tanks for later use on the construction site.



#### Water Quality

- Appropriate for water free of pollutants other than sediment.
- Minor amounts of other non-hazardous pollutants may be acceptable with the agreement of the CSWC.

#### Advantages

- No permits required.
- Best Management Practice (BMP) NS-1, "Water Conservation Practices."

#### Limitations

- Generally not feasible for large quantities or high flow rates.
- May require space for water storage tanks.
- May require treatment for sediment removal.
- Requires ponded water to be infiltrated or evaporated within 72 hours.

#### General Requirements

- If discharging for infiltration, the water must infiltrate/evaporate so that it does not remain ponded for more than 72 hours.
- If necessary, treat water to remove sediment prior to reuse on site. Refer to Appendix B for sediment treatment options.
- Retained water should not be reused near inlets or other areas where it may be inadvertently discharged from the site.
- Removed sediments must be handled properly. Retained sediment must be either dispersed onsite and stabilized, or disposed of at a disposal site approved by the Resident Engineer.

**Table 6 Use Assessment: On-Site Retention**

<b>Can Water be Retained On Site?</b>
1) Answer the following questions to determine the feasibility of using this option:
a) Is the water free of pollutants other than sediment?    YES    NO
b) Can the operation be managed so that <i>no water</i> leaves the construction site?    YES    NO
c) Can the estimated volume of water as calculated on the <b>Discharge Parameters</b> section of the <i>Water Quality and Discharge Parameters Assessment Form</i> (Appendix C) be accommodated on the site?    YES    NO
d) Will ponded water evaporate or infiltrate within 72 hours of collection?    YES    NO
e) Can the water be treated for sediment if necessary for the anticipated reuse?    YES    NO
2) If you answered YES to all of the questions above, consider retaining ownership of the water on site.
3) If you answered NO to any of the above questions, this option is not feasible for the site. Consider other management options.

### 3.3 DISCHARGE TO ADJACENT LAND OR FACILITY OWNED BY OTHERS

#### Definition

Discharge of accumulated water to adjacent land or into another owner's facility (e.g., settling basin, irrigation) by special agreement. A fee may be required by the landowner or facility. Review the questions in Table 6 below to assess if this option is appropriate.



#### Implementation

This agreement should include provisions for any monetary compensation, discharge prohibitions, pre-discharge testing, and expected final condition of the area or facility to be used. If this option is considered for groundwater, discuss all regulatory and legal implications with the CSWC.

#### Water Quality

- An option generally appropriate for water that does not contain pollutants other than sediment.

#### Advantages

- No NPDES permit required.

#### Limitations

- May require treatment for sediment removal.
- Requires a written agreement.
- May require a fee.

#### General Requirements

- The discharge must be managed so that it cannot discharge to a storm drain or water body.
- If sediment filtration is required, the sediment must be properly managed. Retained sediment must be either dispersed onsite and stabilized, or disposed of at a disposal site approved by the Resident Engineer.
- Water should be discharged in accordance with a written agreement from the property owner.
- The discharge must be monitored to assure compliance.
- The discharge must not create a hazard at the discharge point.
- Pre-discharge chemical testing (if required) should be performed in accordance with the agreement, and the results provided to the owner prior to the discharge.

**Table 7 Use Assessment: Discharge to Adjacent Land or Facility Owned by Others**

<b><u>Can Water be Discharged to an Adjacent Land or Facility?</u></b>	
1)	Answer the following questions to determine the feasibility of using this option:
a)	Is there an appropriate landowner or a facility adjacent to the site that is willing to negotiate an agreement to accept your discharge? YES NO
b)	Is the water free of pollutants other than sediment? YES NO
c)	Can the estimated volume of water as calculated on the <b>Discharge Parameters</b> section of the <i>Water Quality and Discharge Parameters Assessment Form</i> (Appendix C) be accommodated by the land/facility? YES NO
d)	Can the water be treated for sediment (if necessary) prior to discharge? YES NO
e)	If groundwater, does the RWQCB allow unrestricted discharge of groundwater to land? YES NO
2)	If you answered YES to all of the questions above, consider negotiating an agreement to discharge to the land/facility.
3)	If you answered NO to any of the above questions, this option is not feasible for the site. Consider other management options.

### 3.4 DISCHARGE TO A SANITARY SEWER SYSTEM

#### **Definition**

Discharge of accumulated water to a public sanitary sewer system (city, county, etc.) through a permit with the local agency. A fee may be required by the sanitary sewer agency. Review the questions in Table 7 below to assess if this option is appropriate.

#### **Implementation**

Must obtain permit from the local sanitary sewer agency. This permit will include provisions for any fees, discharge limitations/prohibitions, and requirements for pre-discharge testing and reporting. If this option is used, an NPDES permit is not required for the dewatering operation.

#### **Water Quality**

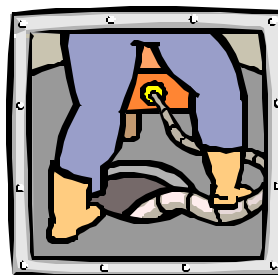
- Generally appropriate for water that may contain sediment and other pollutants.
- Acceptable pollutants and pollutant levels are defined by the sanitary sewer agency.

#### **Advantages**

- Acceptable levels of pollutants may be discharged without pretreatment.
- Water may be pumped directly from the project site with no intermediate transportation.
- No NPDES permit required.

#### **Limitations**

- May require treatment for sediment removal.
- Requires a permit from the sanitary sewer district.
- May require a fee.
- Time required to negotiate agreement and receive permission from sanitary sewer agency.
- May require pre-discharge chemical testing.



#### **General Requirements**

- A permit is required from the sanitary sewer agency to specify requirements for chemical quality of the water, discharge flow rates and quantities.
- Discharge water in accordance with written agreement from the sanitary sewer agency. The discharge may require monitoring to assure compliance.
- Pre-discharge chemical testing (if required) should be performed in accordance with sanitary sewer agency policy with results provided to the agency prior to discharge.
- Discharge records may be required to be submitted to the sanitary sewer district.
- Water may need to be treated for sediment prior to discharge.
- If sediment filtration is required, the removed sediment must be properly managed. Retained sediment must be either dispersed onsite and stabilized, or disposed of at a disposal site approved by the Resident Engineer.

**Table 8 Use Assessment: Discharge to a Sanitary Sewer System**

<b><u>Can Water be Discharged to a Sanitary Sewer System?</u></b>	
1)	Answer the following questions to determine the feasibility of using this option: <ul style="list-style-type: none"> <li>a) Is the local sanitary sewer agency willing to negotiate an agreement to accept the discharge?</li> <li>b) Is the water quality acceptable to the agency or can it be treated to meet requirements?</li> <li>c) Is the estimated volume of water as calculated on the <b>Discharge Parameters</b> section of the <i>Water Quality and Discharge Parameters Assessment Form</i> (Appendix C) acceptable to the sanitary sewer agency?</li> </ul>
2)	If you answered YES to all of the questions above, consider negotiating an agreement to discharge to the sanitary sewer. Contact the CSWC for assistance.
3)	If you answered NO to any of the above questions, this option is not feasible. Consider other management options.

### 3.5 TRANSPORT OFF SITE USING A TRANSPORTATION, STORAGE AND DISPOSAL CONTRACTOR

#### **Definition**

Transport of water off the construction site using a commercial TSD contractor. A licensed commercial TSD contractor can remove, transport and dispose of (or treat and recycle) polluted water. Review the questions in Table 8 below to assess if this option is appropriate.

#### **Implementation**

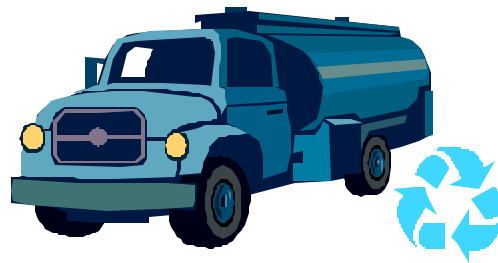
Contact the District CSWC for assistance. The use of a TSD contractor will require a fee and testing prior to pickup and transportation.

#### **Water Quality**

This option is typically appropriate for water with toxic pollutants that cannot be discharged elsewhere, although some TSD contractors will accept clean water. This option would be feasible if the water were polluted in a manner that makes it more cost effective to transport the water off site than to treat it for discharge at the site.

#### **Advantages**

- Can be used to dispose of highly polluted water, including water polluted with hazardous materials.
- No NPDES permit required.



#### **Limitations**

- May be very expensive (~\$0.20 – \$0.30 per gallon plus a solids surcharge, \$70 per hour for a vacuum truck, and cost for analytical testing).
- Requires time for testing.
- Not viable for prolonged periods of dewatering.
- On-site collection/storage area may require secondary containment.

#### **General Requirements**

- Chemical testing is required.
- Uniform hazardous waste manifests will be required if water is hazardous.
- Contact the CSWC for assistance with water that must be managed using a TSD contractor.

**Table 9 Use Assessment: Transport Off Site Using Transportation, Storage and Disposal Contractor**

<b><u>Can Water be Transported Off Site for Disposal?</u></b>	
1)	Answer the following questions to determine the feasibility of using this option:
a)	Is the water quality acceptable to the TSD?    YES    NO
b)	Is the estimated volume of water as calculated on <b>Discharge Parameters</b> section of the <i>Water Quality and Discharge Parameters Assessment Form</i> (Appendix C) acceptable?    YES    NO
c)	Is the fee acceptable to the contract budget?    YES    NO
2)	If you answered YES to all of the questions above, consider negotiating an agreement to discharge to the TSD facility. Contact the District CSWC for assistance.
3)	If you answered NO to any of the above questions, this option is not feasible. Consider other management options.

### 3.6 DISCHARGE WATER TO A STORM DRAINAGE SYSTEM OR A WATER OF THE U.S. UNDER THE NPDES STATEWIDE PERMIT FOR CALTRANS

#### Definition

Discharges consisting solely of accumulated precipitation may be discharged to a storm drain or water body under the NPDES Statewide Permit for Caltrans in all RWQCB Regions except 1 and 2.

Several RWQCB Regions allow qualified discharges from non-storm water dewatering operations to be regulated under the NPDES Statewide Permit for Caltrans. See General Requirements below.

#### Implementation

The flow chart in Figure 2 (Section 2.0) provides guidance for determining if dewatering effluent can be discharged using this option and the process to be used.

Figure 3 (following page) is an enlargement of the section of the flow chart in Figure 2 that shows the implementation process for discharge using this management option.

#### Water Quality

Water must be free of pollutants other than sediment and must consist solely of accumulated precipitation or qualify as a *minor discharge* of non-storm water.

#### Advantages

- Can be discharged directly from the project site following sediment treatment (if required).
- Minimal cost.

#### Limitations

- Must meet water quality requirements as summarized above.
- May require treatment for sediment removal.

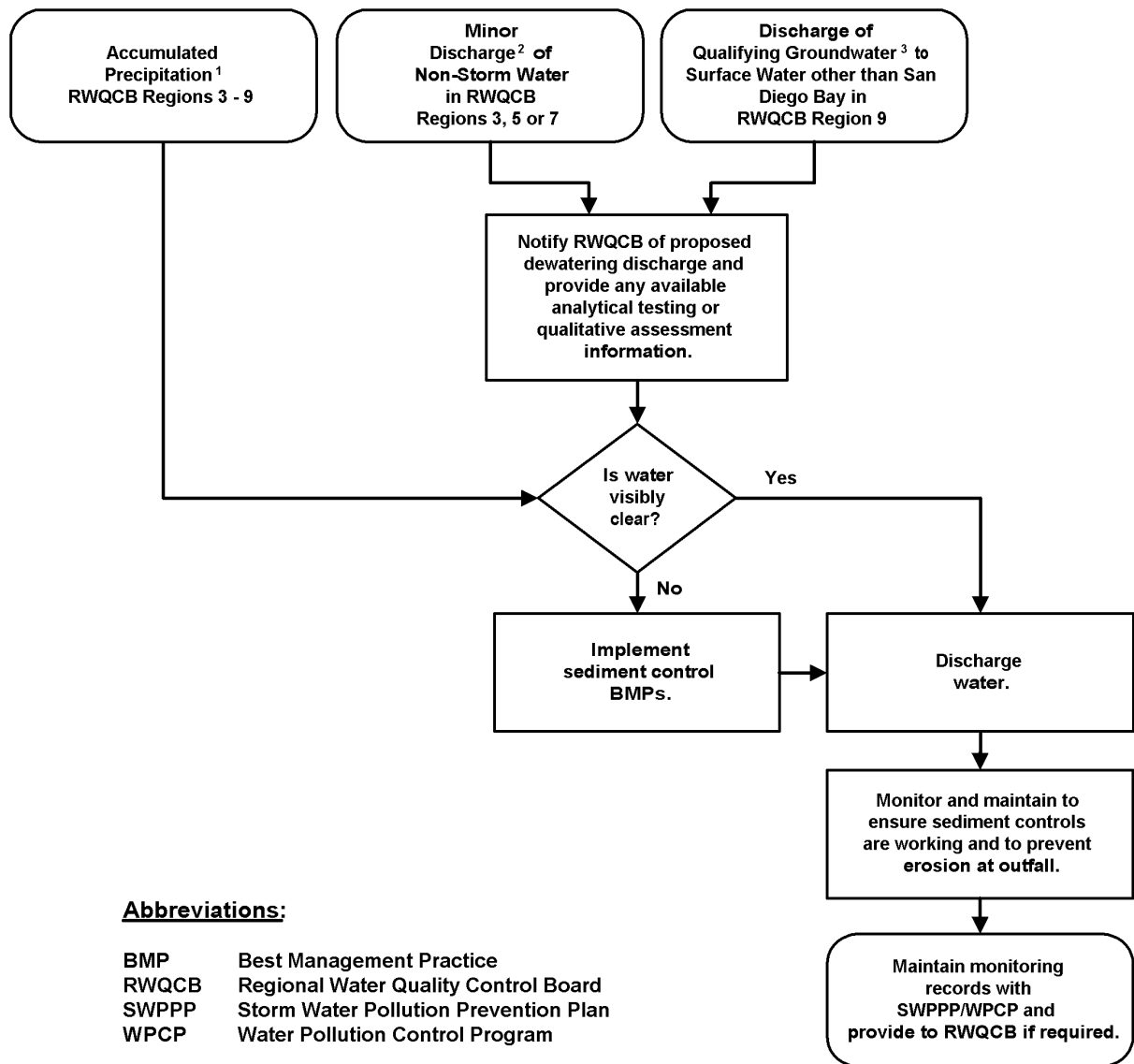
#### General Requirements

- Dewatering Operation BMPs must be included in the project SWPPP or WPCP in accordance with BMP NS-2 “Dewatering Operations” of the *Caltrans Construction Site BMPs Manual*.
- As identified in Figure 2, Dewatering Operations Management Flow Chart, assess water quality and estimate discharge parameters to assure that the water meets water quality requirements and limitations on quantity. Refer to Sections 2.1 through 2.3, and the *Water Quality and Discharge Parameters Assessment Form* (Appendix C) for guidance.
- For accumulated precipitation in Regions 3 – 9, the discharge must consist solely of accumulated precipitation; it cannot be combined with non-storm water. In Regions 3 – 9, RWQCB notification is not required prior to this discharge. (In Regions 1 and 2, concurrence of the RWQCB is required prior to



discharging accumulated precipitation under the NPDES Statewide Permit for Caltrans or a separate permit may be required.)

- In RWQCB Regions 3, 5 and 7, *minor* discharges of non-storm water (groundwater, etc.) may be discharged to a storm drain or water body under the NPDES Statewide Permit for Caltrans. A minor discharge of non-storm water is defined as a discharge of less than 0.25 mgd and with a duration of four or fewer months. Notify the RWQCB of the proposed discharge and provide any water quality assessment information that is available. Concurrence from the RWQCB should be obtained prior to the removal of any non-storm water from the construction site.
- In Region 9, a discharge of unpolluted groundwater of less than 0.1 mgd to a surface water other than San Diego Bay may be allowed under the NPDES Statewide Permit for Caltrans. Concurrence from the RWQCB should be obtained prior to the removal of any groundwater from the construction site.
- Discharge only water that is visibly clear or water treated using appropriate BMPs to prevent impacts to receiving waters. Methods and technologies for sediment removal are described in Appendix B.
- Removed sediments must be handled properly. Retained sediment must be either dispersed onsite and stabilized, or disposed of at a disposal site approved by the Resident Engineer.
- Ensure that the discharge does not cause erosion at the discharge point. Implement appropriate BMPs such as BMP SS-10, “Outlet Protection/Velocity Dissipation Devices” in the *Caltrans Construction Site BMPs Manual*.
- Monitor the discharge regularly to assure that the BMPs are working effectively. The *Dewatering Operations Monitoring Form* provided in Appendix C may be used for this purpose.
- Maintain monitoring records with the SWPPP or WPCP.
- For minor discharges of non-storm water, provide monitoring results to the RWQCB, if required.



**Figure 3 Dewatering Under the NPDES Statewide Permit for Caltrans**



### 3.7 DISCHARGE WATER TO A STORM DRAINAGE SYSTEM OR A WATER OF THE U.S. UNDER A RWQCB NPDES GENERAL PERMIT OR SITE-SPECIFIC NPDES PERMIT

#### **Definition**

Discharge of accumulated water to a storm drainage system or directly to a water of the U.S. in accordance with a General NPDES Permit or site-specific NPDES permit issued by the RWQCB.

#### **Implementation**

Requires applying for permission to discharge under the applicable regional General NPDES Permit or applying for a site-specific permit from the RWQCB. The flow chart in Figure 4 provides general guidance for the implementation process for this management option. RWQCB permits that may apply within each District are listed in Table 10 below.

Permit options and requirements vary by Region, as summarized in Appendix A. The Resident Engineer should consult with the CSWC and review the regional permit for details of the requirements. Copies of the General NPDES Permits referenced in Table 10 are provided as Appendix D of the Field Guide.

#### **Water Quality**

- Appropriate for water free of pollutants other than sediment.
- Water with pollutants other than sediment may be discharged by permission of the RWQCB, and treatment may be required.

#### **Advantages**

- Can be discharged directly from the project site.
- Appropriate for small to large quantities of water.
- Minimal costs.

#### **Limitations**

- Permit application and approval may take several months.
- Discharged water must meet permit water quality requirements.
- Treatment for sediment or other pollutants may be required.
- Pre-discharge testing, monitoring, and reporting to be conducted in accordance with permit.

#### **General Requirements**

- Consult with the CSWC for assistance in applying for and complying with the RWQCB NPDES permit.
- Test, manage, and monitor the discharge in accordance with the RWQCB permit.
- Appendix A provides summary information about General Permits in each Region. Copies of

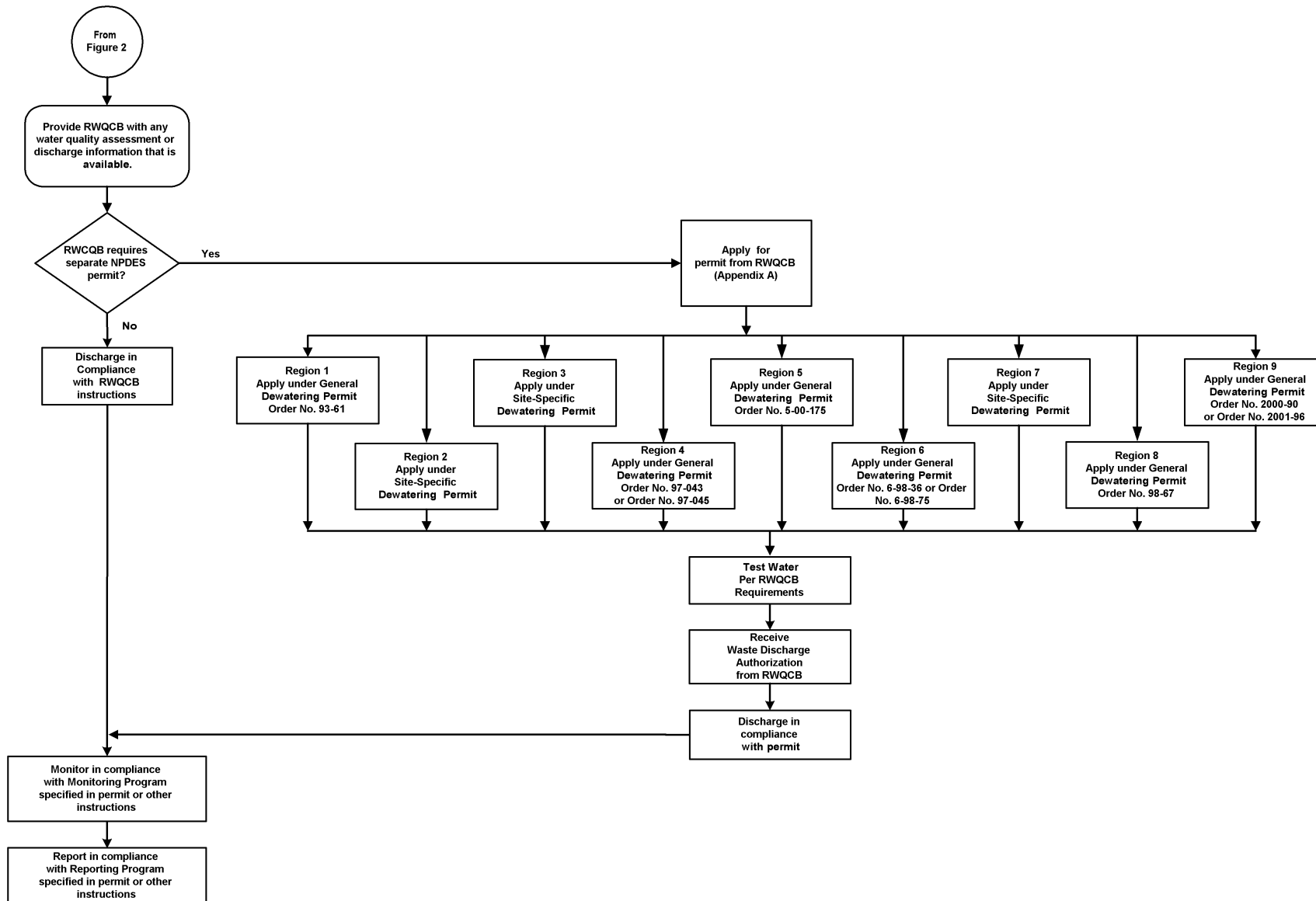
the General NPDES Permits are provided as Appendix D of the Field Guide.

- Sediment treatment is a likely requirement. Methods and technologies for sediment removal are described in Appendix B.
- In addition to RWQCB requirements, dewatering operations must be conducted in accordance with the Dewatering Operations BMP NS-2 “Dewatering Operations” of the *Caltrans Construction BMPs Manual*.
- Ensure that discharges do not cause erosion at the discharge point. Implement appropriate BMPs such as BMP SS-10 “Outlet Protection/Velocity Dissipation Devices” of the *Caltrans Construction BMPs Manual*.

**Table 10 Caltrans Districts and RWQCB General Permits**

Caltrans District	RWQCB General Permit
1	Region 1 – General Permit 93-61 Region 5 – General Permit 5-00-175
2	Region 1 – General Permit 93-61 Region 5 – General Permit 5-00-175 Region 6 – General Permit 6-98-36, 6-98-75
3	Region 5 – General Permit 5-00-175 Region 6 – General Permit 6-98-36, 6-98-75
4	Region 1 – General Permit 93-61 Region 2 – No General Permit Region 3 – No General Permit Region 5 – General Permit 5-00-175
5	Region 2 – No General Permit Region 3 – No General Permit Region 5 – General Permit 5-00-175
6	Region 5 – General Permit 5-00-175 Region 6 – General Permit 6-98-36, 6-98-75
7	Region 3 – No General Permit Region 4 – General Permit 97-043, 97-045 Region 5 – General Permit 5-00-175 Region 6 – General Permit 6-98-36, 6-98-75
8	Region 6 – General Permit 6-98-36, 6-98-75 Region 7 – No General Permit Region 8 – General Permit 98-67 Region 9 – General Permit 2000-90, 2001-96
9	Region 6 – General Permit 6-98-36, 6-98-75
10	Region 2 – No General Permit Region 5 – General Permit 5-00-175 Region 6 – General Permit 6-98-36, 6-98-75
11	Region 7 – No General Permit Region 9 – General Permit 2000-90, 2001-96
12	Region 8 – General Permit 98-67 Region 9 – General Permit 2000-90, 2001-96





**Figure 4 General Process of Dewatering Under a Regional NPDES Permit**